

Recommendation for the week of March 23, 2009:

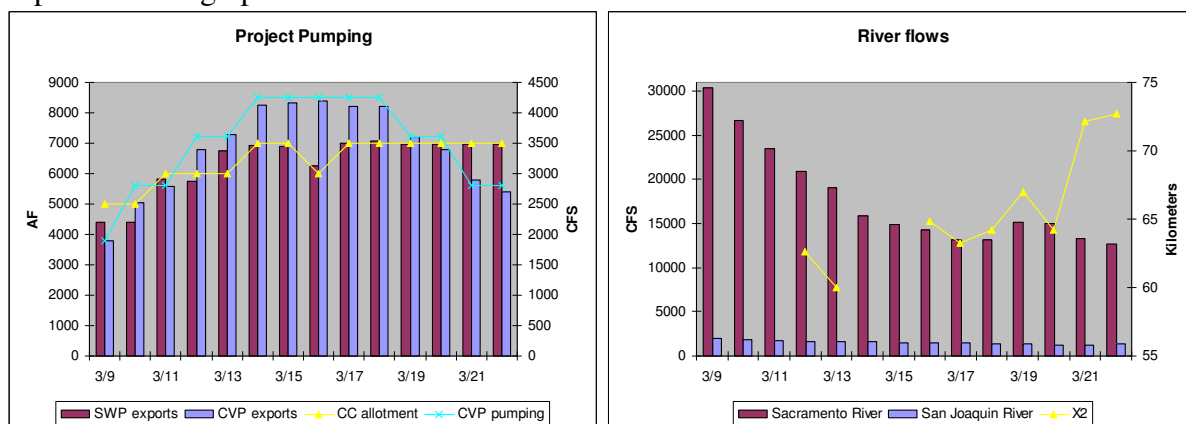
The group recommends to the Service that OMR be set at -5000 cfs on a 14-day average for the next week. The group is monitoring delta smelt salvage and will reconvene and potentially make further recommendations should a one-day, combined expanded salvage reach 20 or greater. The group also recommends that OMR be set at -4000 cfs if salvage of delta smelt occurs on any two consecutive days.

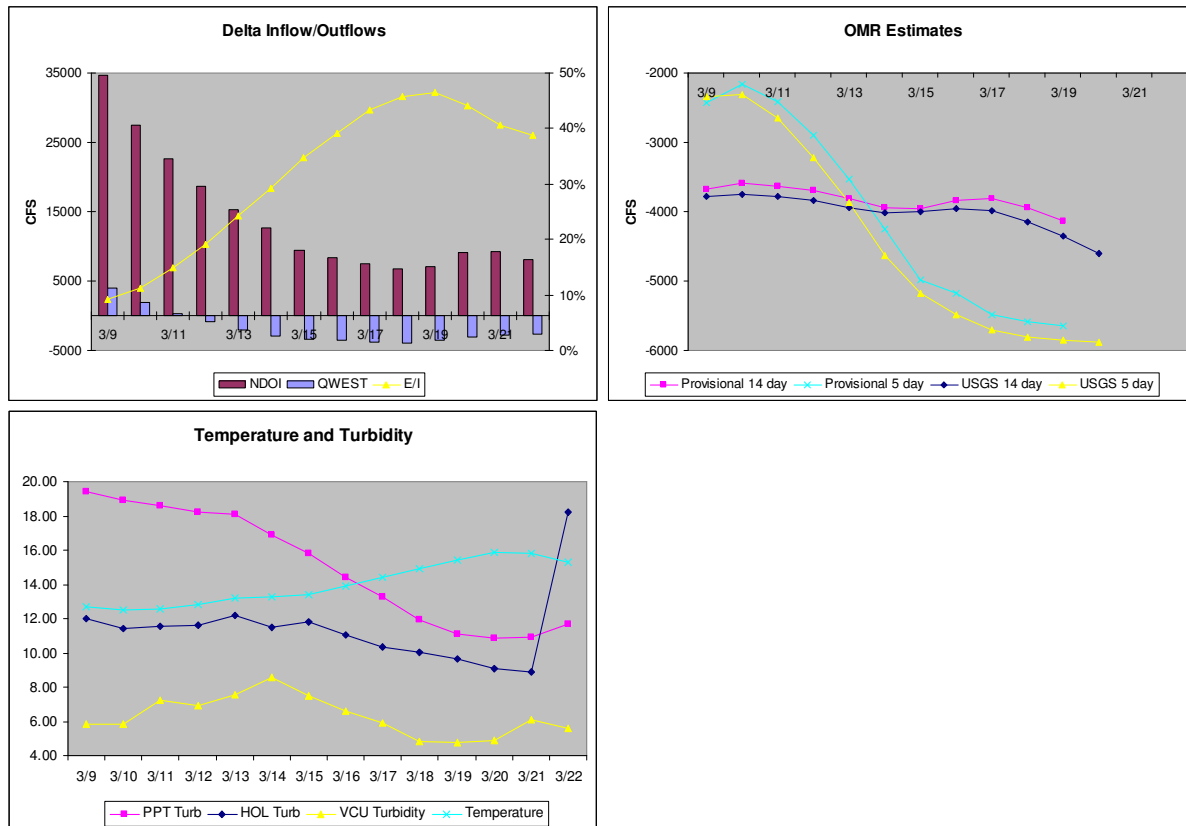
The group anticipates OMR recommendations to be substantially more positive beginning in the coming one to two weeks in order to protect newly spawned delta smelt. The recent Kodiak trawl survey conducted earlier this month did not find any ripe delta smelt. However, the total sample size was somewhat small (~ 60 fish) and the current water temperature and the historical relationships of delta smelt larval hatches relative to water temperature (Bennett; San Francisco Estuary and Watershed Science 2005) suggest that spawning and hatching is imminent.

1) Current environmental data.

Temperature for the 3 station average is 15.3 C. The provisional OMR estimate by the projects as of March 22 is -4797 cfs for 14 day average, -5516 cfs for 5 day average. USGS OMR as of March 20 is -4601 cfs 14 day average and -5884 cfs for 5 day average. Sacramento River inflow into the Delta has been decreasing since the peak on March 5 of 46794 cfs and as of March 22 is at 12682 cfs. QWEST has been declining as well, with March 22 at -2589 cfs. X2 is at 73 km as of March 22.

The CVP is anticipating dropping pumping to approximately 1900 cfs on March 24, and the SWP anticipates dropping pumping to 2500 cfs within a few days, with another drop in pumping a few days after that to keep within the current D-1641 E:I ratio limit of 35%. The data are depicted in the graphs below.





2) Delta fish monitoring:

20mm Survey #1 was completed March 13. No delta smelt larvae were detected, but two adult delta smelt were collected incidentally. Spring Kodiak Trawl #3 was completed March 18. Samples are still being processed for 9 stations, including Montezuma Slough stations. Of the samples processed, 60 delta smelt were collected, with the greatest number of individuals collected at station 719 (Sacramento River Deep Water Ship Channel). Other stations where delta smelt were collected were 716, 704, 809, 815, and 922. None of the 50 females collected were ready to spawn. However, one of ten males collected was stage 5, which indicates he had spawned already. In addition to delta smelt, 14 longfin smelt were collected at station 606, 2 at station 609, and 1 at station 501. Results from previous larval surveys and the SKT are available online at: <http://www.delta.dfg.ca.gov/data/projects/?ProjectID=SLS>
<http://www.delta.dfg.ca.gov/data/projects/?ProjectID=SKT>.

3) Particle Tracking Modeling

The group requested PTM runs for negative 3000, negative 4000, and negative 5000 cfs OMR flows and added flux locations at or near stations 902 and 914 (as both input and output points). Results suggest that at negative 5000 cfs OMR flows, the 31-day entrainment risk for smelt larvae would be 38.2% at station 812 and 52.2% for station 815, but the ultimate fates of more than 50% of the particles would still be unaccounted for after 31 days. For negative 4000 and 3000 cfs OMR flows, respectively, the 30-day entrainment risk for smelt larvae would be 26.3% (19.5%) for station 812 and 40.3% (31.8%) for station 815. The group believes that negative

5000 cfs OMR flows is adequately protective of longfin smelt larvae already in the system, because very few remain in the central and south Delta.

The group felt that with the current environmental conditions it is likely that delta smelt have begun spawning. Because newly hatched delta smelt larvae are too small to be captured effectively by the 20 mm survey net or observed in samples at the CVP and SWP fish facilities, larvae may be present but undetected for several weeks.

The group is formulating a request for the March 30 PTM modeling.

4) Salvage

No delta smelt or longfin smelt adults were salvaged at either the SWP or CVP since March 11. Delta smelt have been salvaged at the CVP on 2-11, 2-15, 3-1, and 3-8 and at the SWP on 3-1, 3-3, and 3-11 for a total expanded salvage of 24. No adult longfin smelt have been salvaged at the SWP or CVP since February 27. Larval longfin smelt were salvaged at the CVP on February 25 and 26 and March 3, 8, 10, and 10 and the SWP on March 18.

5) Discussion for Recommendation

With Sacramento River inflows into the Delta at about 13000 cfs, Qwest at about -2600, and X2 currently at about 73 km, the group felt OMR could be held at negative 5000 cfs because it does not appear that delta smelt larvae have hatched yet. There is a 1-2 week egg incubation on substrate before the larvae hatch. The group recommends to the Service that OMR be set at negative 5000 cfs on a 14-day average for the next week. This recommendation includes an offramp for increased salvage. Should delta smelt combined expanded salvage occur for two consecutive days, the Projects should set OMR to negative 4000 cfs. Should a one day combined expanded salvage count reach 20 or more delta smelt, the group will reconvene to determine if additional pumping restrictions are appropriate to protect the species.

The group does not anticipate that delta smelt larvae will be detected in the 20 mm survey conducted this week (results scheduled for release early next week), but with temperatures rising to 15 and 16 C, hatching will start to occur and within 2-3 weeks some larvae might be of sufficient size to be detected in surveys. Due to the likely presence of larvae in the system by next week or the week after, the group discussed at length the potential for a new recommendation for next week. The group expects to recommend to the Service that OMR be set at -2500 cfs on a 14-day average. This recommendation has some probability of being made next week and a very high probability two weeks out.

6) DSM-2 as a SWG Tool: Presentation by Matt Nobriga and Randy Baxter (attached)

See attached powerpoint presentation.

Longfin Smelt Advice

The group offers no new advice to the Department of Fish and Game regarding actions for longfin smelt. Current delta smelt advice will be protective of longfin smelt larvae, the current life stage of concern.

Recent Smelt Larva Survey (SLS) results and partial 20mm Survey results indicate low and most recently very low densities, respectively, of longfin smelt larvae in the central and south Delta regions influenced by export pumping in the south Delta. These recent results show very few larvae at risk of entrainment. Longfin smelt larvae were transported out of the central Delta and into Suisun Bay by net westward flows in early March. Relatively little additional longfin smelt spawning is anticipated, so entrainment of adult longfin smelt is not expected at OMR flows advised for delta smelt of negative 5000.